ABSTRACT OF THE DISCLOSURE

Using a combination of auto-correlation and cross-correlation techniques provides a symbol timing recovery in a Wireless Local Area Network (WLAN) environment that is extremely robust to wireless channel impairments such as noise, multi-path and carrier frequency offset. An auto-correlator provides an estimate for a symbol boundary, and a cross-correlator is subsequently used to more precisely identify the symbol boundary. Peak processing of the cross-correlation results provides further refinement in symbol boundary detection. In receiving a packet conforming to the IEEE 802.11a standard, the method requires a minimum of only three short symbols of the 802.11a short preamble to determine timing, and guarantees timing lock within the duration of the 802.11a short preamble. This method and system can be easily applied to any other preamble based system such as 802.11g and High Performance Radio LAN/2 (HIPERLAN/2).